EXHIBIT F Claim Chart – U.S. Patent No. 9,336,307

CLAIM	DISCUSSION	INFRINGING LETROSONICS DEVICE
Claim 1. An	The preamble of	Fig. 1
apparatus or	claim 1 is not]
system for	limiting.	2 7 2 3
locally	Nonetheless, the	
recording	PDR(1) is an	
locally	apparatus for	
generated	locally recording	LECTROPHONICES:
audio, said	locally generated	
locally	audio. The locally	
generated	generated audio	
audio also	may be wirelessly	
being	transmitted to a	
transmitted	and recorded as	Ev K (DDR Data Sheet) at 1
to, and	remotely recorded	
remotely	data using a	
recorded by,	Lectrosonics	
a remote	MC70 cable and	
recorder as	transmitter, such	
remotely	as a Lectrosonics	
recorded data	wireless	
comprising:	transmitter.	
at least one	The PDR (1) is a	
local audio	local audio device	
device	wearable by a	
wearable by a	creator of locally	
creator of	generated audio	
said locally		
generated		
audio		
including:		

Fig. 3 Audio input Sheadphone Line output Micro SD card Siot cover A Stime code slot cover Ex. L (PDR Manual) at 4.	The PDR (1) includes a Time Code Sync Port (3) coupled to hardware and/or software/firmware for receiving time data, e.g., time data from a timecode generator. The PDR (1) also includes an Audio Input (2) coupled	at least one local audio device receiver for receiving at least one of the group consisting of digital data, time data, and audio data;
Introduction Congratulations on your purchase of the PDR (Personal Digital Recorder). On occasion, there is a need to record audio in circumstances where a traditional full sized recorder is impractical or even impossible. Whether it might be an extreme sport, a public speaking event, a wedding or a next to impossible location sound recording, the PDR is designed for the difficult audio capture. When talent is at an extreme distance or using a wireless microphone is not practical (knights in armor come to mind), the PDR can travel with your subject and record professional quality audio, synchronized with timecode. The recorder is unobtrusive and easily hidden used as a "plant" microphone to capture environmental or location sound. Ex. L (PDR Manual) at 2; see also Ex. K (PDR Data Sheet) at 1.		

of the PDR (1). "dweedle tones" data in the form of decoding digital software/firmware various functions for controlling to hardware and/or for receiving and Fig. 4 *Id.* at 7. TC Jam (jam timecode) Remote source is used to jam the unit. Timecode data is logged operation. successful, a message will be displayed to confirm the sync will take place automatically. When the sync is When TC Jam is selected, JAM NOW will flash on the into the BWF metadata. code source. Connect the timecode source and the LCD and the unit is ready to be synced with the timetone" signals from the Lectro RM remote control or to Timecode defaults to zero at power up if no timecode The default setting is "no." "yes" (remote control on) and "no" (remote control off). ignore them. Use the arrow buttons to toggle between The recorder can be configured to respond to "dweedle cable in place during recording. jamming timecode. DO NOT leave timecode WARNING: Take your headphones off when

Claim Chart – U.S. Patent No. 9,336,307

Lectrory

Fig. 5

By New Endian LLC

operating systems. Its purpose is to remotely control LectroRM is a mobile application for iOS and Android Lectrosonics transmitters and PDR recorder, including:

- SM Series
- | |
- L Series
- PDR (pending not active as of Oct 13, 2016)

settings available in LectroRM for the PDR are: preted by the transmitter as a configuration change. The audio tone sequence of ("dweedle tone") that are inter-LectroRM's remote control mechanism is the use of an received by the attached microphone, will alter the conthrough the use of encoded audio tones, which when The app remotely changes settings on these units Apple App Store and Google Play Store. figured setting. The app was released by New Endian, .LC. The app is available for download and sells on the

- Record
- Stop
- Lock/unlock
- Absolute or relative level controls

Id. at 9.

said audio

input device,

input device wearable by a

microphone, such as a wearable lavalier microphone).

at least one audio input port for receiving said locally generated audio from an audio

a wearable

input device (e.g.,

generated audio

receiving locally

includes an Audio Input (2) for The PDR (1)

creator of said locally generated audio;

EXHIBIT FClaim Chart – U.S. Patent No. 9,336,307

Ex. K (PDR Data Sheet) at 2.	Format:	Input impedance:	Signal voltage:	Connector:	Time Code	Fig. 6
	SMPTE 12M - 1999 compliant	10 k Ohms	0.5 Vp-p to 5Vp-p	5-pin LEMO		

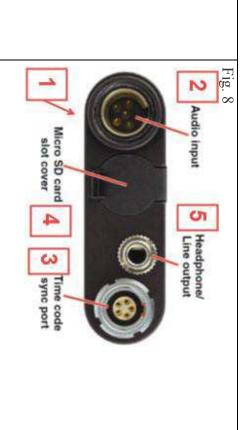
Fig. 7 Versatility and Compatibility

The PDR recorder can be tethered to a camera to capture a higher quality or backup audio recording. The headphone output doubles as a line output to feed the AV input on a camera.

The input connector is the industry standard TA5M jack that accepts any mic or line level signal, and provides bias voltage to power a wide variety of electret lavaliere microphones. The input connection and wiring is compatible with microphones pre-wired for "compatible" and "servo bias" configurations to feed 5-pin inputs on Lectrosonics wireless microphone transmitters.

Ex. L (PDR Manual) at 2.

Claim Chart – U.S. Patent No. 9,336,307 **EXHIBIT F**



Id. at 4. bias" will work with the PDR. See page 10 for details. crophone wired as Lectrosonics "compatible" or "servo on Lectrosonics SM and L Series transmitters. Any mi-The audio input circuitry is the essentially the same as

Fig. 9

5-Pin Input Jack Wiring

of microphones and other audio inputs. Some microon the diagrams shown. phones may require extra jumpers or a slight variation the basic wiring necessary for the most common types The wiring diagrams included in this section represent

:

Claim Chart – U.S. Patent No. 9,336,307

<i>Id.</i> at 11.	Input connector: TA5M 5-pin male	Input level: • Dynamic mic: 0.5 mV to 50 mV • Electret mic: (need spec in uA?) • Line level: 17 mV to 1.7 V	œ.	Fig. 11	<i>Id.</i> at 10.	PIN 5 Line level input for tape decks, mixer outputs, musical instruments, etc.	Pin 4 tied to Pin 1: 0 V Pin 4 Open: 2 V Pin 4 to Pin 2: 4 V	PIN 4 Bias voltage selector for Pin 3. Pin 3 voltage depends on Pin 4 connection.	PIN 3 Microphone level input and bias supply.	PIN 2 Bias voltage source for positive biased electret lavaliere microphones that are not using servo bias circuitry and voltage source for 4 volt servo bias wiring.	PIN 1 Shield (ground) for positive biased electret lavaliere microphones. Shield (ground) for dynamic microphones and line level inputs.	Audio input jack wiring:	Fig. 10
		.5 mV to 50 mV eed spec in uA?) vV to 1.7 V	Analog mic/line level compatible; servo bias preamp for 2V and 4V lavaliere microphones			uts, musical		P.		ctret lavaliere circuitry and	t lavaliere microphones		

at least one control unit necessarily includes a control		at least one memory; and includes a memory slot and a microSD memory card (4) for insertion within the slot.
	Insert the card with the label facing the keypad side of the recorder.	Compatible memory cards The card should be a microSDHC memory card, speed class 10, or any UHS speed class, 4GB to 32GB. The recorder supports the UHS-1 bus type, marked on the memory card with an I symbol. An example of typical markings: Lexar

																			memory;	data in said	local audio	storing said	data and	local audio	for creating	said memory	device, and	audio input	receiver, said	audio device	said local	coupled to
creating local	card (4) for	microSD memory	and (iii) the	of the PDR (1);	various functions	for controlling	"dweedle tones"	data in the form of	decoding digital	as well as for	audio input device,	audio from the	locally generated	for receiving	software/firmware	and/or	related hardware	Input (2) and	data; (ii) the Audio	for receiving time	software/firmware	hardware and/or	(3) and related	Code Sync Port	to (i) the Time	circuitry, coupled	and/or other	software/firmware,	hardware,	controller,	a processor,	unit, in the form of
																								Ex. L (PDR Manual) at 2; see also Ex. K (PDR Data Sheet) at 1.	The coordinary any again of many coming comments.	with essentially any audio or video editing software	sylicilionize them in the timeline of a video clip. The	the audio tracks include time data to make is easy to	With a timecode sync at the start of the production,		Broadcast Wave Format	Fig. 13

Claim Chart – U.S. Patent No. 9,336,307

audio data and storing the local audio data in the microSD memory card (4).

Fig. 14

File Naming

Filenames of the recordings can be set as a progressive sequence of numbers or as the time of the internal clock at the beginning of the recording.

Backlight

The recorder backlight can be set to turn off after either 5 minutes or 30 seconds, or stay on continuously.

מו ואףכ

Choose either Alkaline or Lithium battery type. The voltage of the installed battery will be shown at the bottom of the display.

Date & Time

Set the date and time on the recorder by using the MENU/SEL button to toggle through the options and the UP and DOWN arrow buttons to choose the appropriate number. Date and time are preserved during battery changes. Date and time are independent of the timecode. Date and time are preserved in the file attributes, timecode is written inside the file. The Main Window will indicate the time elapsed since the last power up or the timecode if it has been "jammed." If, however, the unit has been left without power for more than 90 minutes, the time and date will need to be reset.

Ex. L (PDR Manual) at 7.

		Firmware Updates Firmware updates are made using the micro SD card. Download and copy the following firmware update files to a drive on your computer. • pdr vX_xx.ldr is the firmware update file, where "X_xx" is the revision number. Id. at 8.
wherein said local audio data may be retrieved after said locally recording and combined with said remotely recorded audio data.	The local audio data of the PDR (1) may be retrieved (e.g., played back) and the local audio data may be combined with remotely recorded audio data.	Broadcast Wave Format With a timecode sync at the start of the production, the audio tracks include time data to make is easy to synchronize them in the timeline of a video clip. The industry standard BWF (.wav) file format is compatible with essentially any audio or video editing software. Versatility and Compatibility The PDR recorder can be tethered to a camera to capture a higher quality or backup audio recording. The headphone output doubles as a line output to feed the AV input on a camera. The input connector is the industry standard TA5M jack that accepts any mic or line level signal, and provides bias voltage to power a wide variety of electret lavalilier microphones. The input connection and wiring is compatible with microphones pre-wired for "compatible" and "servo bias" configurations to feed 5-pin inputs on Lectrosonics wireless microphone transmitters. Setup and adjustment is made through an intuitive interface provided by the keypad and LCD. In keeping with typical Lectrosonics mechanical designs, the housing is machined from a solid aluminum billet for the ruggedness needed in field production. Ex. L (PDR Manual) at 2.

Claim 2. A	The local audio	Fig. 17
system	data of the PDR	Broadcast Wave Format
according	(1) includes an	
to claim 1,	identifier, such as	the audic tracks include time data to make is easy to
wherein said	at least a portion	the audio tracks include time data to make is easy to
local audio	of a filename,	industry standard BWE (way) file format is compatible
data includes	consisting of track	with essentially any audio or video editing software.
at least one	identifiers.	
identifier		Ex. L (PDR Manual) at 2; see also Ex. K (PDR Data Sheet) at 1.
selected from		
the group		
consisting of		
track		
identifiers,		
iocai audio		
device		
identifiers,		
periormer		
identifiers,		
and		
combinations		
thereof.		

Claim Chart – U.S. Patent No. 9,336,307

Fig. 18

File Naming

Filenames of the recordings can be set as a progressive sequence of numbers or as the time of the internal clock at the beginning of the recording.

Backlight

The recorder backlight can be set to turn off after either 5 minutes or 30 seconds, or stay on continuously.

at Type

Choose either Alkaline or Lithium battery type. The voltage of the installed battery will be shown at the bottom of the display.

Date & Time

Set the date and time on the recorder by using the MENU/SEL button to toggle through the options and the UP and DOWN arrow buttons to choose the appropriate number. Date and time are preserved during battery changes. Date and time are independent of the timecode. Date and time are preserved in the file attributes, timecode is written inside the file. The Main Window will indicate the time elapsed since the last power up or the timecode if it has been "jammed." If, however, the unit has been left without power for more than 90 minutes, the time and date will need to be reset.

Ex. L (PDR Manual) at 7.

Claim 4. An apparatus or apparatus or system generated audio according to claim 1 wherein said creator of said wedding apparatus or generated audio using the PDR (1) is a live performer, such as an athlete, public speaker, wedding	Claim 3. An apparatus or system according to claim 1 wherein said at least one local audio device is at least one bodypack.
	Introduction Congratulations on your purchase of the PDR (Personal Digital Recorder). On occasion, there is a need to record audio in circumstances where a traditional full sized recorder is impractical or even impossible. Whether it might be an extreme sport, a public speaking event, a wedding or a next to impossible location sound recording, the PDR is designed for the difficult audio capture. When talent is at an extreme distance or using a wireless microphone is not practical (knights in armor come to mind), the PDR can travel with your subject and record professional quality audio, synchronized with timecode. The recorder is unobtrusive and easily hidden in garments and costumes, and easy to conceal when used as a "plant" microphone to capture environmental or location sound. Ex. L (PDR Manual) at 2; see also Ex. K (PDR Data Sheet) at 1.

Claim Chart – U.S. Patent No. 9,336,307

Introduction

Fig. 20

Congratulations on your purchase of the PDR (Personal Digital Recorder). On occasion, there is a need to record audio in circumstances where a traditional full sized recorder is impractical or even impossible.

Whether it might be an extreme sport, a public speaking event, a wedding or a next to impossible location sound recording, the PDR is designed for the difficult audio capture. When talent is at an extreme distance or using a wireless microphone is not practical (knights in armor come to mind), the PDR can travel with your subject and record professional quality audio, synchronized with timecode. The recorder is unobtrusive and easily hidden in garments and costumes, and easy to conceal when

Ex. L (PDR Manual) at 2.

or location sound

used as a "plant" microphone to capture environmental

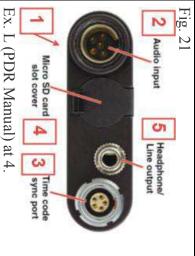
audio device one local said at least to claim according apparatus or 1 wherein further audio output outputting said wireless headphones or a device (such as Output (5) for includes a local audio to an Headphone/Line

includes:

transmitter).

Claim 5. An

The PDR (1)



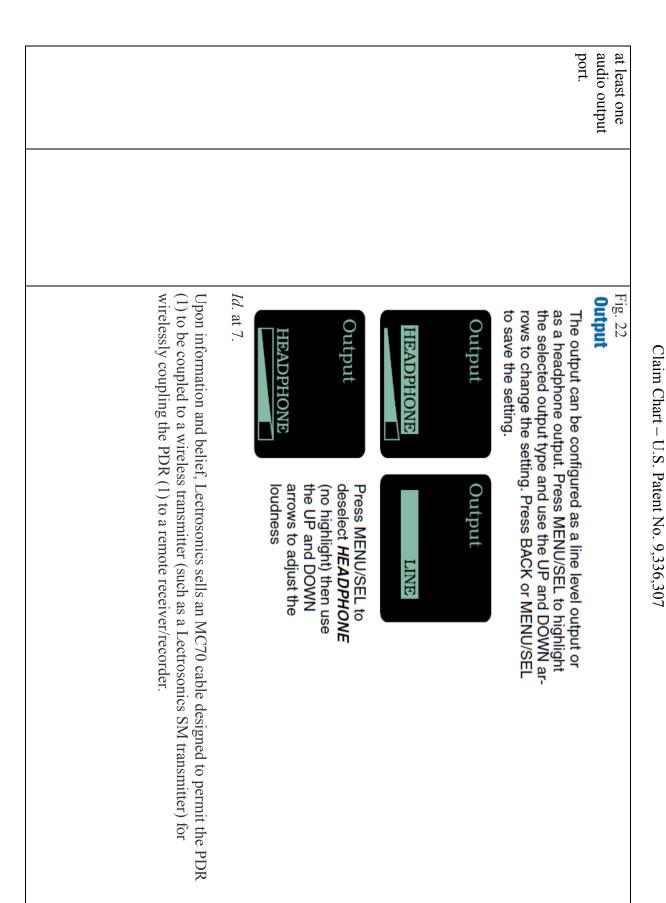


EXHIBIT FClaim Chart – U.S. Patent No. 9,336,307



The PDR (1) is Fig. 24 capable of

Versatility and Compatibility

The PDR recorder can be tethered to a camera to capture a higher quality or backup audio recording. The headphone output doubles as a line output to feed the AV input on a camera.

Ex. L (PDR Manual) at 2.

generated

Headphone/Line Output (5) to a receiver or recorder, directly

audio is

transmitted

by wired connection or

5 wherein

said locally

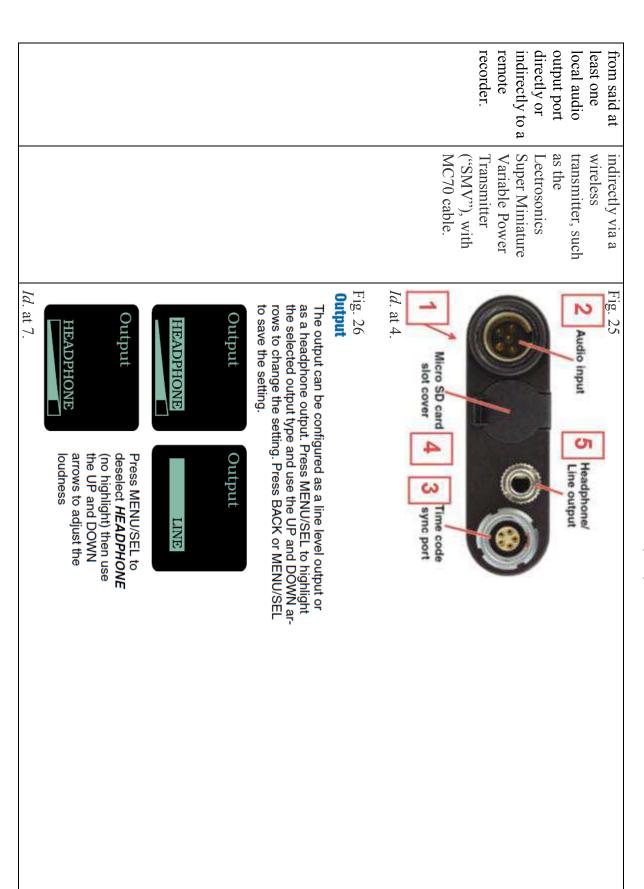
according

audio via

transmitting local

Claim 6. An apparatus or system

to claim





Claim Chart – U.S. Patent No. 9,336,307

said audio input device is a microphone.

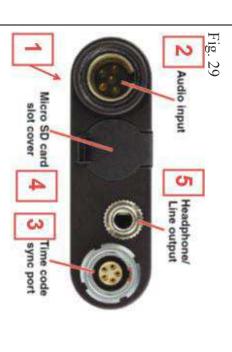
1 wherein

Fig. 28 Versatility and Compatibility

The PDR recorder can be tethered to a camera to capture a higher quality or backup audio recording. The headphone output doubles as a line output to feed the AV input on a camera.

The input connector is the industry standard TA5M jack that accepts any mic or line level signal, and provides bias voltage to power a wide variety of electret lavaliere microphones. The input connection and wiring is compatible with microphones pre-wired for "compatible" and "servo bias" configurations to feed 5-pin inputs on Lectrosonics wireless microphone transmitters.

Ex. L (PDR Manual) at 2



The audio input circuitry is the essentially the same as on Lectrosonics SM and L Series transmitters. Any microphone wired as Lectrosonics "compatible" or "servo bias" will work with the PDR. See page 10 for details.

Id. at 4.

Claim Chart – U.S. Patent No. 9,336,307

Fig. 30

5-Pin Input Jack Wiring

of microphones and other audio inputs. Some microthe basic wiring necessary for the most common types on the diagrams shown. phones may require extra jumpers or a slight variation The wiring diagrams included in this section represent

Fig. 31

:

Audio input jack wiring:

microphones. Shield (ground) for dynamic microphones and line level inputs. Shield (ground) for positive biased electret lavaliere

PIN 2

PIN 3 microphones that are not using servo bias circuitry and voltage source for 4 volt servo bias wiring.

Bias voltage source for positive biased electret lavaliere

PIN 4

Microphone level input and bias supply.

Pin 4 Open: 2 V

Pin 4 to Pin 2: 4 V

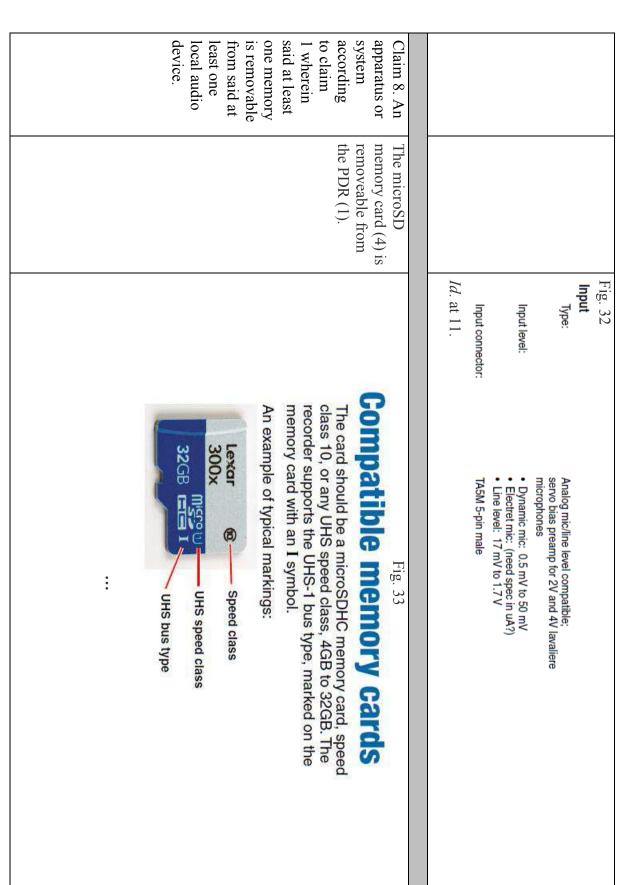
Pin 4 tied to Pin 1: 0 V

Pin 3 voltage depends on Pin 4 connection.

Bias voltage selector for Pin 3.

instruments, etc. Line level input for tape decks, mixer outputs, musical

Id. at 10



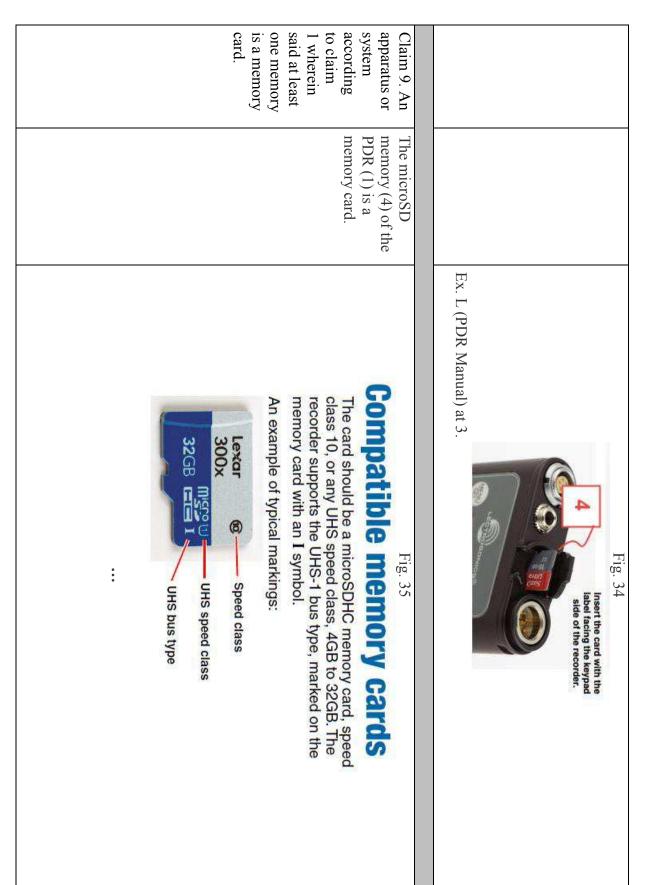
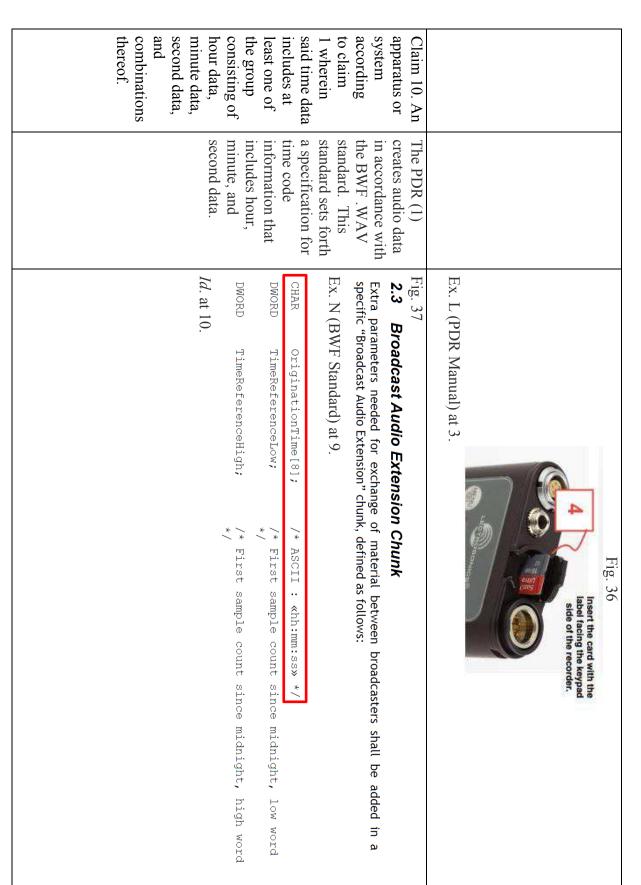


EXHIBIT FClaim Chart – U.S. Patent No. 9,336,307



<i>Id.</i> at 11.	TimeReference				Fig. 38 OriginationTime
	These fields shall contain the time-code of the sequence. It is a 64-bit value which contains the first sample count since midnight. The number of samples per second depends on the sample frequency which is defined in the field <nsamplespersec> from the <format chunk="">.</format></nsamplespersec>	'-' hyphen '_' underscore ':' colon '' space '.' stop	The separator between the items can be anything but it is recommended that one of the following characters be used:	Hour is defined from 0 to 23. Minute and second are defined from 0 to 59.	8 ASCII characters containing the time of creation of the audio sequence. The format shall be « 'hour'-'minute'-'second'» with 2 characters per item.